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Dilip Madhusudan Ranade

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MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.

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EXAMINER

BAYARD, DJENANE M

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/750,426	Applicant(s) RANADE ET AL.	
	Examiner DJENANE M. BAYARD	Art Unit 2441	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is in response to communication filed on 12/03/08 in which claims 31-48 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 31-48 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 31, 37 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2001/0018692 to Suginoshita et al in view of U.S. Patent Application No. 2005/0114431 to Singh et al.

a. As per claims 31, 37 and 43, teaches a system comprising: one or more processors (See paragraph [0007]); and memory storing program instructions (See paragraph [0007], *a memory unit*); wherein the program instructions are executable by the one or more processors to: store a replica of a data object (See paragraph [0017] and figure 7, *replica DB*); store history information indicative of previous accesses to the replica of the data object (See paragraph [0030], *replica reference history acquiring unit*); receive a write request specifying particular data to write to the replica of the data object (See paragraph [0015 and 0016], *a master database processes a data update request requested and the data update request unit sends out the received update request to a replica side database management unit*); select one or more operations to perform on the replica of the data object in response to the write request (See paragraph [0021], *the database is updated from the specified update information having the highest preferential order in the replica*) wherein the one or more operations are selected depending upon the history information (See paragraph [0030]), wherein the one or more operations are selected from a group of operations including: writing the particular data specified by the write request to the replica of the data object; However, and marking the replica of the data object as stale.

Singh et al teaches flagging a replica as old (See paragraph [0082]).

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It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Singh et al in the claimed invention of Suginoshita et al in order to synchronize the data objects in the replicas (See paragraph [0082]).

5. Claims 32, 36, 38, 42, 44 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2001/0018692 to Suginoshita et al in view of U.S. Patent Application No. 2005/0114431 to Singh et al as applied to claims 31, 37 and 43 above, and further in view of U.S. Patent Application No. 2002/0087797 to Adrangi

a. As per claims 32, 38 and 44, Suginoshita et al in view of Singh et al teaches the claimed invention as described above. Furthermore, Suginoshita et al teaches wherein the program instructions are further executable to analyze the history information to determine a number of accesses to the replica of the data object received (See paragraph [0030]). However, Suginoshita et al in view of Singh et al fails to teach wherein the data object is received within a first time period; wherein selecting the one or more operations comprises selecting to write the particular data specified by the write request the replica of the data object in response to determining that the number of accesses received within the first time period is greater than or equal to a threshold value.

Adrangi teaches analyze the history information to determine a number of accesses to the data object received within a first time period (See paragraph [0035-0037], *the popularity may be calculated after a certain amount of time has passed*); wherein selecting the one or more operations comprises selecting to write the particular data specified by the write request the

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replica of the data object in response to determining that the number of accesses received within the first time period is greater than or equal to a threshold value(See paragraph [0035-0037] *the popularity value for the requested content in the request history list is computed periodically and is used to determine whether or not the content should be cached at the network cache server*).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Adrangi in the claimed invention of Suginoshita et al in view of Singh in order to provide an intelligent system for caching popular network content (See paragraph [0008])

b. As per claims 36, 42 and 48, Suginoshita et al in view of Singh et al teaches the claimed invention as described above. However, Suginoshita et al in view of Singh et al fails to teach wherein the replica of the data object comprises a replica of a file.

Adrangi teaches wherein the data object comprises a replica of a file (See paragraph [0044]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Adrangi in the claimed invention of Suginoshita et al in order to cache popular network content (See paragraph [0008]).

6. Claims 33, 39 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2001/0018692 to Suginoshita et al in view of U.S. Patent Application No. 2005/0114431 to Singh et al as applied to claims 31, 37 and 43 above, and further in view of

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U.S. Patent Application No. 2002/0087797 to Adrangi and further in view of U.S. Patent Application No. 2002/0174126 to Britton et al.

a. As per claims 33, 39 and 45, Suginoshita et al in view of Singh et al teaches the claimed invention as described above. Furthermore, Suginoshita et al teaches the claimed wherein the program instructions are further executable to analyze the history information to determine a number of accesses to the replica of the data object (See paragraph [0030]). However, Suginoshita et al in view of Singh et al fails to teach wherein the program instructions are further executable to analyze the history information to determine a number of accesses to the replica of the data object received within a first time period; wherein selecting the one or more operations comprises selecting to mark the replica of the data object as stale in response to determining that the number of accesses received within the first time period is less than a threshold value.

Adrangi teaches analyze the history information to determine a number of accesses to the data object received within a first time period (See paragraph [0035-0037], *the popularity may be calculated after a certain amount of time has passed*); wherein selecting the one or more operations comprises selecting to write the particular data specified by the write request the replica of the data object in response to determining that the number of accesses received within the first time period is greater than or equal to a threshold value(See paragraph [0035-0037] *the popularity value for the requested content in the request history list is computed periodically and is used to determine whether or not the content should be cached at the network cache server*).

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It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Adrangi in the claimed invention of Suginoshita et al in view of Singh in order to provide an intelligent system for caching popular network content (See paragraph [0008]). However, Suginoshita et al in view of Singh et al and further in view of Adrangi fails to teach wherein selecting the one or more operations comprises selecting to mark the replica of the data object as stale in response to determining that the number of accesses received within the first time period is less than a threshold value.

Britton et al teaches wherein selecting the one or more operations comprises selecting to mark the replica of the data object as stale in response to determining that the number of accesses received within the first time period is less than a threshold value (See paragraph [0054], *if the data has not been accessed for the time period specified when the data was created, the scheduler will not delete the data but rather marks the data as stale*).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Britton et al in the claimed invention of Suginoshita et al in view of Singh et al and further in view of Adrangi et al by design choice in order to essentially form a large virtual warehouse that grows larger as data is entered (See paragraph [0054]).

7. Claims 34, 40 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2001/0018692 to Suginoshita et al in view of U.S. Patent Application No. 2005/0114431 to Singh et al. as applied to claim 31, 37 and 43 above, and further in view of U.S. Patent No. 6,954,765 to Spiegel.

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a. As per claims 34, 40 and 46, Suginoshita et al in view of Singh et al teaches the claimed invention as described above. However, Suginoshita et al in view of Singh et al wherein the replica of the data object includes a plurality of portions of data; wherein the write request comprises a write request to write the particular data to a first portion of the plurality of portions of data; wherein said marking the replica of the data object as stale comprises marking the first portion of the plurality of portions of data as stale without marking other portions of the plurality of portions of data as stale.

Spiegel teaches wherein the replica of the data object includes a plurality of portions of data (See col. 3, lines 45-47, *multiple portions of a complete file* and col. 4, lines 6-9); wherein the write request comprises a write request to write the particular data to a first portion of the plurality of portions of data (See col. 3, lines 61-66) ; wherein said marking the replica of the data object as stale comprises marking the first portion of the plurality of portions of data as stale without marking other portions of the plurality of portions of data as stale (See col. 5, lines 5-11, *a valid filed denotes whether unit whether the data in the unit is useable and an invalid field marks a unit a unusable*).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Spiegel in the claimed invention of Suginoshita et al in view of Singh et al in order to easily include changed data in a file in a manner that conserves storage space (See col. 2, lines 59-61).

8. Claims 35, 41 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2001/0018692 to Suginoshita et al in view of U.S. Patent Application No.

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2005/0114431 to Singh et al as applied to claims 31, 37 and 43 above, further in view of U.S.

Patent No. 6,954,765 to Spiegel, further in view of U.S. Patent Application No. 2002/0087797 to

Adrangi and further in view of U.S. Patent Application No. 2002/0174126 to Britton et al.

a. As per claims 35, 41 and 47, Suginoshita et al in view of Singh et al teaches the claimed invention as described above. However, Suginoshita et al in view of Singh et al fails to teach wherein the program instructions are further executable to : analyze the history information to determine a number of accesses to the first portion of the plurality of portions of data received within a first time period; wherein selecting the one or more operations comprises: selecting to write the particular data specified by the write request the first portion of the plurality of portions of data if the number of accesses received within the first time period is greater than or equal to a threshold value; selecting to mark the first portion of the plurality of portions of data as stale if the number of accesses received within the first time period is less than the threshold value, wherein the first portion is marked as stale without marking other portions of the plurality of portions of data as stale.

Spiegel teaches wherein the replica of the data object includes a plurality of portions of data (See col. 3, lines 45-47, *multiple portions of a complete file* and col. 4, lines 6-9); wherein the write request comprises a write request to write the particular data to a first portion of the plurality of portions of data (See col. 3, lines 61-66) ; wherein said marking the replica of the data object as stale comprises marking the first portion of the plurality of portions of data as stale without marking other portions of the plurality of portions of data as stale (See col. 5, lines 5-11,

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a valid filed denotes whether unit whether the data in the unit is useable and an invalid field marks a unit a unusable).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Spiegel in the claimed invention of Suginoshita et al in view of Singh et al in order to easily include changed data in a file in a manner that conserves storage space (See col. 2, lines 59-61).

Adrangi teaches analyze the history information to determine a number of accesses to the data object received within a first time period (See paragraph [0035-0037], *the popularity may be calculated after a certain amount of time has passed*); wherein selecting the one or more operations comprises selecting to write the particular data specified by the write request the replica of the data object in response to determining that the number of accesses received within the first time period is greater than or equal to a threshold value(See paragraph [0035-0037] *the popularity value for the requested content in the request history list is computed periodically and is used to determine whether or not the content should be cached at the network cache server*).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Adrangi in the claimed invention of Suginoshita et al in view of Singh and further in view of Spiegel et al in order to provide an intelligent system for caching popular network content (See paragraph [0008]);

Britton et al teaches selecting to mark the first portion of the plurality of portions of data as stale if the number of accesses received within the first time period is less than the threshold value (See paragraph [0054], *if the data has not been accessed for the time period specified when the data was created, the scheduler will not delete the data but rather marks the data as stale*).

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It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Britton et al in the claimed invention of Suginoshita et al in view of Singh et al, further in view of Spiegel et al and further in view of Adrangi et al by design choice in order to essentially form a large virtual warehouse that grows larger as data is entered (See paragraph [0054]).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DJENANE M. BAYARD whose telephone number is (571)272-3878. The examiner can normally be reached on Monday- Friday 5:30 AM- 3:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Djenane Bayard

/Djenane M Bayard/
Patent Examiner, Art Unit 2441